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ANNUAL REPORT
OF THE COUNCIL
OF THE
YORKSHIRE
PHILOSOPHICAL SOCIETY

FOR THE YEAR

1929

PRESENTED TO THE ANNUAL MEETING,

FEBRUARY 10th, 1930.

PRINTED BY ORDER OF THE COUNCIL.

1930.

[Issued May 1st, 1930.]







ROMAN CINERARY URN.

FOUND DURING EXCAVATIONS IN FISHERGATE, YORK,
AUGUST, 1929,
AND PRESENTED TO THE YORKSHIRE MUSEUM BY
F. C. CHAPMAN, ESQ.

ANNUAL REPORT
OF THE COUNCIL
OF THE
YORKSHIRE
PHILOSOPHICAL SOCIETY

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[*Issued May 1st, 1930.*]



FORM
OF A
BEQUEST TO THE SOCIETY.

—O—

Every person desirous of bequeathing to the Society any sum of Money, Specimens, Books, Instruments, or other Property, is requested to make use of the following form:—

*I give and bequeath to the Trustees, for the time being, of the Society established at York, called “**The Yorkshire Philosophical Society,**” for the use of the said Society, the sum of _____ to be paid out of such part of my personal estate as I may legally charge therewith. [Or here enumerate the effects or property intended to be bequeathed.] And I direct that the receipt of the Treasurer of the said Society, for the time being, shall be an effectual discharge to my Executors for the said legacy.*

The Yorkshire Philosophical Society.

(Founded 1822).

Patrons:

HIS MAJESTY THE KING.

HER MAJESTY THE QUEEN.

Trustees:

GEORGE A. AUDEN, M.D.

CHAS. E. ELMHIRST, J.P.

RT. HON. LORD DERAMORE.

President:

William Herbert St. Quintin, D.L., J.P., F.Z.S.

Vice-Presidents:

W. Harvey Brook.

H. J. Wilkinson.

Col. W. A. White, J.P.

Arthur Hurst, A.K.C.

Sydney H. Smith, F.Z.S.

Richard Thompson.

H. M. Platnauer, B.Sc.

W. A. Evelyn, M.A., M.D.

Ald. W. H. Birch, J.P.

Chas. E. Elmhirst, J.P.

S. Walker, F.E.S.

Frank Green.

Council:

Elected 1928... J. L. Brockbank, M.A., H.M.I.

John A. Cooper.

Sidney Melmore, B.Sc., F.G.S.

J. Triffitt.

Elected 1929... E. Baker.

C. E. N. Bromehead, B.A., F.G.S.

G. W. Daniel.

Rev. A. Raine, B.A.

Elected 1930... C. J. Bex.

R. H. Chapman.

Frank Terry.

Geoffrey Thompson, M.A.

Hon. Treasurer:

S. Walker, F.E.S.

Hon. Secretary:

Chas. E. Elmhirst, J.P.

Committees—

General Purposes and Finance Committee :

C. J. Bex.	Arthur Hurst.
J. L. Brockbank.	Rev. A. Raine.
W. Harvey Brook.	Frank Terry.
John A. Cooper.	J. Triffitt.
Dr. W. A. Evelyn.	S. Walker.
Chas. E. Elmhirst, <i>Secretary</i> .	

Garden Committee :

E. Baker.	Arthur Hurst.
C. J. Bex.	Sidney Melmore.
R. H. Chapman.	Col. W. A. White.
G. W. Daniel.	S. L. Wyatt.
S. Walker, <i>Secretary</i> .	

Museum Committee :

C. E. N. Bromehead.	Rev. A. Raine.
W. Harvey Brook.	J. Scott.
Dr. W. A. Evelyn.	Geoffrey Thompson.
Arthur Hurst.	S. Walker.
Sidney Melmore.	H. J. Wilkinson.
W. H. St. Quintin.	Dr. Collinge, <i>Secretary</i> .

Abbey Restoration Committee :

C. J. Bex.	Frank Terry.
Ald. W. H. Birch.	J. Triffitt.
Chas. E. Elmhirst.	S. Walker.
Rev. A. Raine.	H. J. Wilkinson.
Sydney H. Smith.	Dr. Collinge, <i>Secretary</i> .

Building Sub-Committee :

Ald. W. H. Birch.	J. Triffitt.
Chas. E. Elmhirst.	S. Walker.
Dr. Collinge, <i>Secretary</i> .	

The President, Hon. Secretary, Hon. Treasurer and Keeper
are *ex-officio* members of all Committees.

York and District Field Naturalists' Section.

President :

F. Vear.

Vice-Prèsidents :

H. J. Wilkinson.

C. R. Featherstone, M.A.

V. G. F. Zimmerman.

Arthur Smith.

Hon. Secretaries : A. W. Ping, M.A., K. G. Chilman.



REPORT OF THE COUNCIL
OF THE
YORKSHIRE PHILOSOPHICAL SOCIETY,
10th FEBRUARY, 1930.

FOLLOWING the report on the ruins of St. Mary's Abbey, H.M. Office of Works has inspected the Hospitium and reported thereon.

The report recommends as urgent the following repairs:

Ground Floor.—Strip the casing from the whole length of the beam supporting the East gable, and take out and renew decayed timbers. Strengthen the joint in the beam carrying the floor joists by means of the plates. Take out and renew all the defective lead glazing.

First Floor.—Take out all the brick filling between the timbers in order that a thorough examination of the timber work may be made, and repair or renew as may be necessary. Replace the filling with brick and finish with plaster on the inside and rough-cast outside. Special precautions should be taken to waterproof the joint between the filling of the timber. Take out and renew the sole piece with seasoned oak. Remove the deal which has been used for facing up the old oak timbers. Repair the latter where necessary with new oak or special composition. Additional support should be given to both the gable ends, owing to their weak and defective condition. Preferably they should be dismantled and be reconstructed, repairing and renewing the timbers as may be found necessary. Take out the existing casements and replace with metal of suitable design. Overhaul and repair the lead glazing before refixing in the new casements. Splice a new end on to the tie beam of truss No. 2. Secure the split posts and brackets with bolts. Insert struts to the principal rafters of trusses Nos. 1 and 2. Overhaul and make watertight the two skylights. Treat all oak timbers with insecticide. Treat

all timbers affected by dry rot. Cover the underside of the roof with beaver or similar boarding, fixed to the face of the purlins, to prevent mortar falling from the tiles on to the exhibits.

The estimated cost of the above works is £1,000.

The Abbey Restoration Committee after having given very careful consideration to this report recommended that the Council accept the offer of H.M. Office of Works to undertake the carrying out of the work, and that the necessary work for the preservation of the Hospitium be carried out as early as possible. They further suggested that the "Recommendations for the improvement of the Building" be deferred for future consideration; also that the pointing of the Abbey Walls, etc., should be proceeded with, after consultation with H.M. Office of Works.

Your Council regret that they have not received that support from the members of the Society to the Million Shilling Fund and the Abbey Restoration Fund that they expected. If the recommendations of H.M. Office of Works have to be carried out and the Abbey and Hospitium saved, a speedy and generous response to the Council's appeal for funds must be forthcoming.

The Society has received a generous bequest of £2,000 from the late Mr. J. E. Champney, of London.

The following is a full list of the Lectures delivered in the Tempest Anderson Hall during the past year:—

Thursday, January 10th.—"Singapore, the Key to the Far East." By Capt. J. E. Ellam.

Thursday, January 24th.—"The Old Hospitals of York." By the Rev. A. Raine, B.A.

Thursday, February 7th.—"Primitive Man and his Universe." By E. L. Grant Watson.

Thursday, February 21st.—"The Legionary Fortresses of Britain." By S. M. Miller, M.A.

Thursday, March 7th.—"By the Dolomite Road to Venice and Florence." By H. H. Gleave.

Thursday, October 17th.—"Early Pottery." By Arthur Hurst, A.K.C.

Thursday, October 31st.—"Oliver Cromwell." By E. Rosslyn Mitchell, M.A., LL.B.

Thursday, November 14th.—“Life on the Sea Floor.” By William Hunter, F.Z.S.

Thursday, November 28th.—“My Visit to Egypt.” By Chas. E. Elmhirst.

Thursday, December 12th.—“British York.” By Rev. Angelo Raine, B.A.

Two General Monthly Meetings have been held, when the following Communications were laid before the meetings:—

February 4th.—“Colin Maclaurin, Mathematician.” By Sidney Melmore, B.Sc., F.G.S.

February 4th.—“The New Roman Memorial Stone.” By the Rev. A. Raine, B.A.

March 4th.—“Early and Mediæval Pottery.” By Arthur Hurst, A.K.C.

The Autumn Course of Lectures of the York University Extension Society was given in the Tempest Anderson Hall.

On June 3rd, the Annual Conference of the Royal Institute of British Architects was opened in the Tempest Anderson Hall, and the Annual Congress of Yorkshire Archæological Societies was held therein on October 26th.

During the year the York and East Yorkshire Architectural Society have conferred the honour of Honorary Membership upon Dr. Walter E. Collinge.

By a unanimous vote of the Council Mr. Eric Maclagan, C.B.E., M.A., F.S.A., Director and Secretary of the Victoria and Albert Museum, South Kensington, and A. Hamilton Thompson, M.A., D.Litt., F.S.A., Professor of Mediæval History in the University of Leeds, have been elected Honorary Members of the Society.

The Council regret to have to record the decease of Mr. James Melrose, the senior Vice-President of the Society, on February 4th. Mr. Melrose had been a member for upwards of fifty years, and first served on the Council in 1878, and had been a Vice-President since 1892; and Mr. Edwin Gray who had been Hon. Treasurer from 1881 to 1923, a Trustee of the Society since 1885, and a Vice-President since 1917.

The Society has during the past year lost three of its Honorary Members, viz., Mr. S. S. Buckman, F.G.S., Mr. Charles E. Keyser, M.A., F.S.A., and Dr. H. W. T. Wager.

FIELD NATURALISTS' SECTION. The year has been one of steady work and continued enthusiasm on the part of our members, although no outstanding event can be recorded. In order to keep within the limits of "York and District," the record of work in this Section is limited to a radius of twenty miles from the City. Although this limitation is occasionally thought to be irksome, there is no doubt that careful observation of the persistence or otherwise of the fauna and flora within the limits of this area is distinctly valuable. Membership at the close of the year has increased by 10 to 106.

The Lectures and Excursions during 1929 have been as follows:—

January 16th.—Lantern Lecture: "The Natural History of Architecture." C. E. N. Bromehead, B.A., F.G.S.

January 30th.—Entomological Recorder's Report. A. Smith. A Paper on "Grasshoppers." A. J. A. Woodcock, M.Sc., F.E.S.

February 6th.—Botanical Recorder's Report. J. H. Evers. Exhibits and Lantern Slides by members.

February 20th.—Presidential Address, "The Life of a Tree." C. R. Featherstone, M.A.

March 6th.—Lantern Lecture: "Family Affairs in Birdland." F. Vear.

March 20th.—Recorders' Reports. Vertebrate Zoology, S. H. Smith, F.Z.S. Ornithology, V. G. F. Zimmerman.

April 3rd.—Annual Meeting.

May 22nd.—An Excursion to Moreby Park.

June 1st.—An evening visit to Clifton Ings.

June 12th.—A special visit to the Museum Gardens, conducted by Mr. H. J. Wilkinson.

June 29th.—An Excursion to Boston Spa.

July 13th.—A visit to Acomb Brick Ponds.

July 24th.—A visit to Askham Bogs.

October 5th.—An Autumn Excursion and Fungus Foray to Sandburn. This was followed by a meeting in the basement of the Museum where the specimens collected were exhibited and explained.

October 23rd.—Lantern Lecture: "Botanizing with a Camera." H. Britten.

November 6th.—General Exhibit Night.

November 20th.—Geological Recorder's Report. J. A. Dell, M.Sc. Lecture: "Some recent investigations of the Yorkshire Coal Measures." C. E. N. Bromehead, B.A.

December 4th.—Lantern Lecture: "Celestial Photographs." J. Scott.

December 18th.—Conchological Recorder's Report. H. Sowden. Exhibits and Notes by Members.

NEW MEMBERS, ELECTED IN 1929.

- Alexander, V. W., M.A., 3, Rawcliffe Grove.
 Baker, The Rev. A. E., M.A., 78, Bootham.
 Barton, T. H., M.B., B.S., Holgate Hill.
 Corrighan, Mrs. E. E., 8, Longfield Terrace.
 Coverdale, G. H., 16, Queen Anne's Road.
 Creswell, R. C., 44, St. Olave's Road.
 Downes, Mrs. E. D., 36, Bootham.
 Drummond, O., F.C.I.S., York Waterworks Office.
 Dunnington-Jefferson, Lt.-Col. J. A., D.S.O., Thicket Priory, York.
 Everard, H. E., 2, St. Mary's.
 Ford, Lt.-Col. V. T. R., 9, Park Street.
 Grant, J. F., 12, Clifton Dale.
 Gray, T., 57, Stonegate.
 Halliwell, G. W., 35, North Parade.
 Hamilton, C. W., "Glen Royd," Stockton Lane.
 Harding, Major C. E. L., R.A.M.C., 9, Bootham Terrace.
 Hollis, The Rev. W., B.A., St. Olave's Vicarage, Marygate.
 Kendall, Miss M. L., "Milton House," 62, Haxby Road.
 Lee, The Rev. A. R., M.A., Holy Trinity Rectory, Micklegate.
 Lyth, T. B., "Tresco," Moorgate.
 Marshall, Mrs. A., 33, Wentworth Road.
 Merriman, G. A., 63, Petergate.
 Milburn, Mrs. G., The Lodge, Heworth Green.
 Moorcock, L. J., "Court Lea," Sycamore Place.
 McClellan, W. H., 18, Bootham Terrace.
 Rowland, Miss J., 34, Markham Street.
 Rowntree, B. S., The Homestead.
 Suggitt, W. A., 8, Clifton Dale.
 Terry, A., 25, Grosvenor Terrace.
 Thomson, G. I., "Edenheys," Heworth Green.
 Visick, A. H., F.R.C.S., 25, Petergate.
 Wharldall, H., 33, Sycamore Terrace.
 Young, C. H., 24, Petergate.

DEATHS.

HONORARY MEMBERS.

- Buckman, S. S., F.G.S., "Westfield," Towsey, Thame, Oxon.
 Keyser, C. E., M.A., F.S.A., D.L., J.P., Aldermaston Court (nr. Reading).
 Wager, H. W. T., D.Sc., F.R.S.

MEMBERS.

Gray, Edwin, M.A., LL.M., Gray's Court.
Hill, Mrs. S. A., 8, Longfield Terrace.
Kitching, T. R., "Heworth Cottage."
Kleiser, C. J., 30, Portland Street.
Leetham, S., "Elm Bank," The Mount.
Marshall, C., 33, Wentworth Road.
Melrose, James, J.P., "Clifton Croft."
Milburn, W.C., "The Lodge," Heworth Green.
Segar, The Rev. Halsall, 24, St. Mary's.
Tidswell, W. H., 20, Bootham Crescent.

LADY SUBSCRIBERS.

Todd, Miss Laura E., 37, Bootham.
Wilkinson, The Hon. Mrs., Dringhouses Manor.

RESIGNATIONS.

Members, 24. Lady Subscribers, 5. Associates, 1.

DEATH AND RESIGNATION.

Members	34
Lady Subscribers		7
Associates	1
					<hr/>
					42

NEW MEMBERS.

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TOTAL MEMBERSHIP ON 31st DECEMBER,
1929.

Honorary Members	30
Members	405
Lady Subscribers	51
Associates	..	..	13
			<hr/>
			499
			<hr/>

LIST OF HONORARY MEMBERS.

1. 1927. Bather, F. A., M.A., D.Sc., F.R.S., F.G.S., 46, Marryat Road, London, S.W. 19.
2. 1926. Benson, George, A.R.I.B.A, Thirsk Road, Easingwold
3. 1897. Berget, Baron A., Sorbonne, Paris
4. 1888. Bobretzki, Dr., The University, Kiev
5. 1906. Bower, F. O., M.A., Sc.D., LL.D., F.R.S., The Crescent, Ripon
6. 1923. Clarke, Wm. Eagle, I.S.O., LL.D., F.R.S.E., The Royal Scottish Museum, Edinburgh
7. 1924. Collingwood, R. G., M.A., F.S.A., Haverfield Library, Ashmolean Museum, Oxford
8. 1906. Cornish, Vaughan, D.Sc., Inglewood, Camberley, Surrey
9. 1898. Crichton-Brown, Sir James, M.D., LL.D., D.Sc., F.R.S., 45, Hans Place, London, S.W. 1.
10. 1926. Fox, Cyril, Ph.D., F.S.A., Director of the National Museum of Wales, Cardiff.
11. 1920. Grabham, Oxley, M.A., Heron Cottage, Thornton Dale, Yorks.
12. 1923. Harmer, Sir Sidney F., K.B.E., Sc.D., F.R.S., The Old Manor House, Melbourn, near Royston, Herts.
13. 1924. Kendall, Prof. Percy F., D.Sc., F.R.S., F.G.S., 1, Devas Road, London, S.W. 20.
14. 1926. Keith, Sir Arthur, M.D., LL.D., F.R.C.S., F.R.S., Conservator of Museum and Hunterian Professor, Royal College of Surgeons of England, London, W.C.
15. 1891. Leyland, C. J., Haggerston Castle, Northumberland
16. — Lightfoot, Thomas, Masham, Yorks.
17. 1929. MacLagan, Eric, C.B.E., M.A., F.S.A., Director and Secretary of the Victoria and Albert Museum, London, S.W. 1.
18. 1901. Macnamara, W. H., Railway Commission, Courts of Justice, London
19. 1925. Marriott, Sir John A. R., M.A., 17, Belgrave Square, London
20. 1906. Müller, Sophus, Prindsens Palais, Copenhagen
21. 1889. Pavlow, A. P., Professor of Geology in the University of Moscow, Russia
22. 1926. Peers, C. R., C.B.E., M.A., F.B.A., F.S.A., Chief Inspector of Ancient Monuments, H.M. Office of Works, London
23. 1927. Regan, C. Tate, M.A., F.R.S., F.L.S., Director of the British Museum (Nat. Hist.), London, S.W.
24. — Sadler, Sir Michael Ernest, K.C.S.I., C.B., D.Litt., LL.D., Master of University College, Oxford
25. 1906. Shetelig, Dr. Haakon, Bergens Museum, Bergen, Norway
26. 1924. Smith, Arthur H., M.A., F.S.A., 2, Balfour Road, Weybridge, Surrey
27. 1929. Thompson, Professor A. Hamilton, M.A., D.Litt., F.S.A., The University, Leeds
28. 1926. Woods, Henry, M.A., F.R.S., Sedgwick Museum, Cambridge
29. 1923. Woodward, Sir A. Smith, LL.D., F.R.S., F.G.S., Hill Place, Hayward's Heath, Sussex
30. 1922. Yeld, George, M.A., Orleton, Gerrards Cross, Bucks.

THE TREASURER'S ACCOUNT IN CONNECTION WITH THE FUND FOUNDED BY THE LATE
WM. REED, ESQ., FOR SPECIFIC PURPOSES.

Dr.	INCOME.	£ s. d.	EXPENDITURE.	Cr.	£ s. d.
To Balance brought forward...	...	3 13 6	By New Books ...	...	5 18 6
Interest on York Corporation 3% Redeemable Stock, less tax	14 8 0	Excess of Income over Expenditure ...	...	24 5 0
Interest on £50 placed on Deposit with Midland Bank Ltd.	...	1 5 0			
Income Tax recovered (3 years)	...	10 16 0			
Bank Interest	1 0			
		£30 3 6			£30 3 6

BALANCE SHEET.

	£ s. d.		£ s. d.
Amount of Fund on 31st December, 1929 ...	674 5 0	Amount invested in York Corporation 3% Redeemable Stock ...	600 0 0
		Amount placed on Deposit with the Midland Bank Ltd....	50 0 0
		Balance ...	24 5 0
	£674 5 0		£674 5 0

S WALKER, Hon. Treasurer.

Audited and found correct,

FREDK. ABRAHAMS.

January 29th, 1930.

Dr.

ST. MARY'S ABBEY RESTORATION FUND.

Cr.

INCOME.		EXPENDITURE.	
	£ s. d.		£ s. d.
To Subscriptions	.. .. 282 5 0	By Printing and Stationery	.. .. 11 9 0
" Bank Interest	.. .. 2 17 0	" Postages and Receipts	.. .. 8 0 0
		" H.M. Office of Works—Expenses	.. .. 7 16 5
		" "The Times"—(Advert.)	.. .. 7 10 0
		" Balance	.. .. 250 6 7
	<u>£285 2 0</u>		<u>£285 2 0</u>

FABRIC FUND.

	£ s. d.		£ s. d.
To $\frac{1}{7}$ th of Income Tax recovered	.. .. 147 10 0	By Balance	.. .. 149 4 0
" Bank Interest	.. .. 1 14 0		
	<u>£149 4 0</u>		<u>£149 4 0</u>

THE LATE MR. JOHN E. CHAMPNEY BEQUEST.

	£ s. d.		£ s. d.
To the late Mr. John E. Champney bequest	.. .. 2000 0 0		
" Interest on £1978 15s. 5d. 5% War Stock	.. .. 49 9 4		
	<u>£2049 9 4</u>		<u>£2049 9 4</u>

S. WALKER, *Hon. Treasurer.*

Audited and found correct,

FREDK. ABRAHAM,

January 29th, 1930.

THE TREASURER IN ACCOUNT WITH THE YORKSHIRE

[illegible]

I have audited the Books of the above Society, and from the information and explanations furnished, am of the opinion that the Accounts are in order and correct.

January 29th, 1930.

FREDK. ABRAHAMS.

PHILOSOPHICAL SOCIETY FOR THE YEAR ENDING 31ST DEC., 1929.

Last Year	EXPENDITURE.						Cr.		
							£	s.	d.
	<i>Rent, Rates and Taxes:</i>								
	Crown Rent	...	...	...	...	...	1	0	0
	Corporation Rent (less tax)	...	...	...	...	...	17	0	0
	Property Tax and City Rates	...	...	...	...	...	75	6	8
	Waterworks Company's Rates	...	...	...	...	...	6	14	8
	Gardeners' License	...	...	...	...	...	3	0	0
106								103	1 4
	<i>Insurance:</i>								
	Fire Premiums	...	...	...	...	...	18	16	0
	Employers' Liability Premium	...	...	...	...	...	7	4	9
	Fidelity Guarantee Premium	...	...	...	...	...	1	10	0
	National Health and Unemployment Insurance	...	...	...	...	...	34	4	0
56								61	14 9
14	Telephone Rent and Calls	...	...	...	...	...		13	10 7
	<i>Salaries and Wages:</i>								
	Museums	...	...	...	...	...	1828	7	11
	Lodge and Gardens	...	...	...	...	...	711	6	10
	Staff Pensions	...	...	...	...	...	202	0	0
2718								2741	14 9
	<i>General Additions, Repairs, etc.:</i>								
	MUSEUMS—								
	Additions	...	...	...	...	...	69	18	7
	Linfoot Collection of Coins	...	...	...	...	...	120	0	0
	Repairs	...	...	...	...	...	19	8	7
	General Expenses	...	...	...	...	...	75	7	5
208								284	14 7
	GARDENS—								
	General Expenses	...	...	...	...	...	98	17	10
	Bowling Green	...	...	...	...	...	12	0	1
138								110	17 11
	ESTATE—								
	General Repairs, etc.	...	...	...	...	...	114	0	2
	Hospitium Staircase	...	...	...	...	...	138	0	0
	Geological Gallery Roof	...	...	...	...	...	137	2	0
437								389	2 2
784								784	14 8
	<i>Coal, Coke, Gas, and Electricity:</i>								
104	Coal and Coke	...	...	...	...	...	81	17	7
17	Gas	...	...	...	...	...	15	0	11
25	Electricity	...	...	...	...	...	33	17	1
147								130	15 7
54	Library—Books and Binding	...	...	...	...	...	...	44	12 4
53	Lectures	...	...	...	...	...	...	55	13 0
	<i>Printing and Stationery:</i>								
44	Annual Reports and Proceedings	...	...	...	...	...	43	12	0
48	General Printing and Stationery	...	...	...	...	...	40	15	0
93								84	7 0
	Guides to Museum and Gardens	...	...	...	...	...	...	39	0 0
	Deposit Account (Life Membership)	...	...	...	...	...	...	20	0 0
24	Picture Postcards	...	...	...	...	...	...	50	8 4
18	Postages and Receipts	...	...	...	...	...	...	17	0 0
	Cheque Book	...	...	...	...	...	...	1	12 0
	Bank Commission	...	...	...	...	...	...	8	14 0
	Fabric Fund	...	...	...	...	...	...	147	10 0
	Messrs. Brown and Elmhirst (<i>re</i> Income Tax and Rating Appeal)	...	...	...	...	...	...	31	10 0
								4335	18 4
	Excess of Income over Expenditure	...	...	...	...	...	...	412	16 4
								£4748	14 8
	Balance due to Treasurer, 31st Dec., 1929	...	...	...	...	...	53	9	1
							£53	9	1

S. WALKER, *Hon. Treasurer.*

THE LATE DR. ANDERSON'S BEQUEST.

			£	s.	d.
Interest	on £8,000 New Zealand 4 % Inscribed Stock	...	288	0	0
„	on £5,700 London & North Eastern Railway 4 % First Preference Stock	... ..	182	8	0
„	on £2,500 London & North Eastern Railway 4 % Second Guaranteed Stock	... ..	80	0	0
„	on £8,000 Canada 4 % Registered Stock	... ..	256	0	0
„	on £3,219 3s. 5d. Bank of England Stock	... ..	309	0	10
„	on £5,777 2s. 6d. South Indian Railway 4 % Registered Debenture Stock	... ..	184	17	4
„	on £4,314 13s. 2d. 5 % War Loan Stock	... ..	215	14	6
„	on £2,000 4½ % Conversion Loan	... ..	72	0	0
„	£45 Deposit at Midland Bank	... ..	1	2	6
Rents of Shops and Dwelling-houses, Nos. 32 and 34 Bootham	... ..	... ..	65	0	0
Income Tax recovered (3 years)	... ..	... ..	1021	14	6
			<u>£2675</u>	<u>17</u>	<u>8</u>

Memo :—The above items are shown less tax, if deducted.

MILLION SHILLING FUND.			Dr.	Cr.		
INCOME.			£	s.	d.	
To Balance brought forward	...	..	114	10	0	
„ Subscriptions	..	..	78	14	0	
„ Interest on 5% War Stock	..	..	36	12	4	
„ Bank Interest	..	..	0	15	0	
„ £153 12s. 9d. 5% War Stock..	..	..	155	1	6	
			<u>£385 12 10</u>			
EXPENDITURE.			£	s.	d.	
By £109 18s. 6d. 5% War Stock..	..	..	114	0	0	
„ Ceramic Case	..	..	271	1	6	
			<u>£385 12 10</u>			

BALANCE SHEET.			£	s.	d.
Amount of Fund, 31st December, 1929	..	..	579	7	7
			<u>£579 7 7</u>		
Amount invested in 5% War Stock	..	..	578	16	3
Balance at Midland Bank Ltd.	..	..	0	11	4
			<u>£579 7 7</u>		

STATEMENT OF FUND.			£	s.	d.
To Subscriptions received to 31st December, 1929	921	18	8		
„ Interest on War Stock and Bank Interest	..	111	18	11	
			<u>£1033 17 7</u>		
By Expenditure	..	..	454	10	0
„ Balance	..	..	579	7	7
			<u>£1033 17 7</u>		

S. WALKER, *Hon. Treasurer.*

Audited and found correct,
FREDK. ABRAHAMS,
January 29th, 1930.

THE YORKSHIRE MUSEUM,
YORK.

Report
of the
Museum Committee
FOR THE YEAR 1929.

PRINTED BY ORDER OF THE COUNCIL.

1930.

The Yorkshire Museum,

YORK.

Keeper :

WALTER E. COLLINGE, D.Sc., M.Sc., F.S.A., F.L.S.,
M.B.O.U., Hon. F.R.H.S.

Honorary Curators :

ARCHÆOLOGY	- - - -	{ W. HARVEY BROOK. W. A. EVELYN, M.A., M.D. (Cantab.)
GEOLOGY	- - - - -	{ SIDNEY MELMORE, B.Sc., F.G.S. C. E. N. BROMEHEAD, B.A., F.G.S.
ROMAN ANTIQUITIES	- -	Rev. A. RAINE, B.A.
BOTANY	- - - - -	H. J. WILKINSON.
ZOOLOGY	- - - - -	W. H. ST. QUINTIN, F.Z.S.
ENTOMOLOGY	- - - -	S. WALKER, F.E.S.
CONCHOLOGY	- - - -	H. SOWDEN.
ASTRONOMY	- - - - -	J. SCOTT.
NUMISMATICS	- - - -	GEOFFREY THOMPSON, M.A.
CERAMICS	- - - - -	ARTHUR HURST, A.K.C.

Sub-Curator : W. WATSON.

Assistants : { MISS E. HOLMES.
MISS M. BECKWITH.
FRANCIS T. G. WHITE.

Chief Clerk : ARTHUR COLLEY.

Museum Attendants :

WILLIAM RAFTON and MRS. HORSFALL.

THE YORKSHIRE MUSEUM.

REPORT OF THE MUSEUM COMMITTEE FOR THE YEAR 1929.

THE year has proved a busy and very successful one. The most important addition to the Museum received during the year was the Linfoot Collection of Roman and Greek Coins. Half the Collection has been obtained by purchase, and the remainder by gift from Mr. Linfoot. The actual number of coins is 434, and nearly all are in a very fine state of preservation. Many have been found in York and others in various parts of the County.

In continuance of the policy of replacing the old show cases by modern ones in the Central Hall, a fine new bronze show case has been built. It consists of nine bays, each 34 in. wide, 6 ft. 6 in. high and 18 inches deep, each bay fitted with three plate glass shelves. With this addition it has now been possible to exhibit nearly 300 further specimens of Leeds, Castleford and Knottingly pottery, all part of the Hurst Loan Collection.

The old cases have been moved to the Gallery of the Central Hall, and in them it is proposed to exhibit part of the Collection of Mediæval Tiles.

The whole of the Society's Collection of Glass and Ceramics, and the Boynton Collection have been cleaned and rearranged, and various alterations made in the cases.

In consequence of the closing of the upper room of the Hospitium a temporary exhibition of Roman Antiquities has been arranged in the Tertiary Room in the Geological Department. The specimens include Roman pottery, glass, and jet, bone and bronze articles.

In response to an application from the Director of the Victoria and Albert Museum, South Kensington, the Council, after consultation with the Keeper, have agreed to loan from May to September for the Exhibition of English Mediæval Art, the following:—The Romanesque stone figure of Moses, the wooden figure of the Virgin and Child (A.D. 1450), the bronze Madonna, a specimen of the carving from the Shrine of St. William (1310), and specimens of mediæval pottery.

The Yorkshire Numismatic Society held its Summer Meeting in the Museum on July 20th, when Mr. George Benson exhibited numerous coins from the Museum Collections.

The Yorkshire Architectural and York Archæological Society continues to hold its meetings and house its Library in the Museum.

EDUCATIONAL WORK.—The City Educational Authorities continue to make use of the Museum Collections. The number of children attending the Museums for study and instruction was 768. Acting on the Keeper's suggestion the Council decided early in the year to extend the privilege of admitting school children within a radius of twelve miles of York to the Museums free for educational purposes, to all public and private schools in the city, and most of them have taken advantage of this concession.

Many Schools from outside the city have also made use of the Museum for educational purposes.

The Keeper has continued his short addresses on the different collections, to various parties of visitors, and to artizans and children on Saturday afternoons.

Amongst the various organizations that have visited the Museum were:—

March 15th.—Hull Secondary Schools.

April 26th.—Barrow in Furness Secondary School.

May 14th.—Darlington Technical School.

May 28th.—Morley Secondary School.

June 8th.—Girls' Friendly Society, Manchester Diocese.

June 10th.—International Postal Union Congress.

June 15th.—Members of the Royal Institute of British Architects.

June 30th.—York Branch of Toc H.

July 5th.—Association of Managers of Sewage Disposal Works.

July 6th.—Northumberland and Durham Classical Association.

July 13th.—Lancashire Rosecrucian College.

July 27th.—Yorkshire Newspaper Society.

July 27th.—Bournville Youths Club.

November 8th.—Beverley Rotary Club.

The collections or specimens have been studied by W. S. Bisat, F.G.S., of Hull; Prof. Henry Woods, M.A., F.R.S., of the Sedgwick Museum, Cambridge; Dr. H. G. Drake-Brockman of Middlesbrough; R. G. Collingwood, M.A., F.S.A., of the Ashmolean Museum, Oxford; Miss A. M. H. Kitson Clark, Cambridge; Reginald A. Smith, B.A., F.S.A., of the British Museum, London; P. F. Spendlove, B.Sc., A.R.C.S., of York; Dr. R. Crookall, of the Geological Survey and Museum, London; G. K. Beaulah; and Miss S. Jackson of the University of Manchester.

SPECIAL EXHIBITS.—Special exhibits have been made of Roman Glass; the Norman and the Plantagenet Coins in the Cook Collection; and the Collection of Monastic Lamps.

Turning to the different departments of the Museum :—

ETHNOLOGY.—This department continues to attract a large share of attention, both from an educational as well as a scientific standpoint. The Irish Collection of stone implements has been stored in cabinets in order to make room for further specimens belonging to the Harland Collection.

GEOLOGY.—Work upon the type specimens in the palæontological department is now completed. The Rooke Collection of Fossils and the Clutton Collection of Minerals have been cleaned and rearranged.

BOTANY.—The specimens of British Flowering Plants and Ferns in the Herbarium are in fair condition. The foreign plants require attention and more room.

ASTRONOMY.—All the instruments are in good condition, and various observations have been taken during the year. The annular eclipse of the Sun visible as a partial eclipse was observed on November 1st.

NUMISMATICS.—Further progress has been made in the classification and labelling of the collections. The preliminary classification and labelling, and the exchange of duplicates have been completed for practically all the English, Scottish, Irish and Colonial coins and tokens. The Roman coins have been begun, but some months' further work will be needed before they are properly arranged. Some were classified several years ago, but there have been many unclassified additions since. Reference is made elsewhere to the acquisition this year of 434 Roman Imperial Coins which are not yet incorporated, but will be a most useful addition to the previous collection. The question of increased accommodation for the collections will shortly arise. The present cabinets are now full and have not adequate space for the recently acquired 434 Roman Coins, or for the gifts and other additions which are made from time to time. It is, of course, essential that the coin trays be interchangeable, and it is hoped that one or more of our present cabinets can be adapted so as to meet this need, and do fuller justice to the collections. Selections of coins with labels and descriptions have, as previously, been exhibited in the Central Hall at intervals throughout the year in order to stimulate general interest in coins. Various welcome gifts have been received and duly acknowledged during the year, and the Society would be glad if its friends could give any really good specimens, especially of Yorkshire or Northern coins or tokens. The present specimens are only too often in extremely poor condition, and ought to be eliminated.

CERAMICS.—During the past year a large amount of work has been done in the Ceramic Section. The installation of the new long case across the end of the Central Hall and the washing and setting out of all the pieces shown in it have been successfully carried out. The range of cases along the right hand side of the Central Hall have also been cleaned

and the contents washed and put back. The whole of the cases in the gallery have also been washed and recoloured out, and the contents have all been carefully cleaned and reset out. This constitutes quite a record of work for one year. The remainder of the Ceramic Collection has been kept in good order.

THE LIBRARY.—During the year 36 volumes have been added by purchase, and 124 by presentation, in addition to the usual unbound memoirs.

The number of volumes borrowed was 214.

METEOROLOGY.—Statistics of Station: Longitude, $1^{\circ} 5' W.$; Latitude, $55^{\circ} 57' N.$; height above mean sea level, 56 feet.

The *rainfall* for 1929 was below normal, being 22.83 inches, 2.17 inches below the average for over 50 years. The rain was fairly spread over the year, with the exception of January, July, October, November and December when the totals for the months were 2.47, 2.52, 3.47, and 5.04 inches respectively. March and September were the driest months with .02 and .51 inches respectively.

Temperature ranged from $84^{\circ} F.$ on July 8th, to $14^{\circ} F.$ on February 14th and 17th; the range of temperature for 1929 being thus $55.4^{\circ} F.$ as against $55^{\circ} F.$ for 1928. A mean pressure of 1015.5 millibars (1000 millibar = 29.531 inches of mercury) at M.S.L., (corrected for diurnal variations), has been recorded, as against 1122.5 millibars for 1928. December gave the lowest mean for the year, 1001.3 millibars, November next with 1005.2 millibars. February was highest 1042.6 millibars, and January next with 1043.3 millibars. The extreme range was 1.60 inches as compared with 1.59 inches in 1928. The highest reading of the barometer was taken March 1st, at 9 a.m., viz.: 30.83 inches, and the lowest on December 7th, at 9 p.m., viz.: 28.38 inches.

Snow or Rain fell to the amount 22.82 inches or 579.3 mm., as against 27.40 inches or 696.0 mm., for 1928, a decrease of 4.58 inches or 116.7 mm., for the year. The heaviest fall of the year occurred on December 9th, when 20.1 mm. (0.79 inches)

fell. The cumulative totals for the years since 1820 are, for the heaviest monthly falls, August 6000·35 mms., October 5753·48 mms., and July 5432·30 mms.

Observations of Winds show that during 1929 we had "strong" winds on 5 days (force 4 to 7 on scale 0-12), 1 day more than 1928, and "calm" on 8 days as compared with 2 in 1928. The chief winds have been observed as S. (106), W. (47), N. (67), S.E. (34), and S.W. (34), and N.W. (35).

Thunder was heard on 8 days, snow or sleet fell on 18 days, as against 6 days in 1928; and there were hailstorms on 3 days, as against 8 days the previous year.

Bright Sunshine was recorded 1294·0 hours as against 1293·7 hours in 1928, an increase of 0·3 hours for the year.

The daily mean was 3·55 hours, and the percentage of possible sunshine 29 as against 29 in 1928.

After the cold February, spring growths were rather late, and March was so very dry vegetation did not make much progress, consequently the hay crops were rather light but were gathered in excellent condition. Cereals in this district were on the whole very good. Potatoes were a good crop, and were gathered well.

It is urgently requested that any discovery of Archæological interest in the neighbourhood may be brought to the notice of the Keeper of the Museum, or the Honorary Curators, as early as possible.

The Keeper of the Museum will be pleased to give any information in his power, and may be seen daily, Museum engagements permitting.

CLIMATOLOGICAL SUMMARY—THE YORKSHIRE MUSEUM, YORK, 1929.

Latitude 53° 57' N., Longitude 1° 5' W. Gravity Correction to 8 mb. Height above Mean Sea Level 56 ft.

1929.	Mean Pressure corrected to 32° F. and Lat. 45° and reduced to Mean Sea Level				Air Temperature.		Humidity.				Mean Amount of Cloud. 0—10.		Cloud Amount, 9 a.m. No. of Observations.				Wind, No. of Observations, 9 a.m.													
	9 a.m.	9 p.m.	9 a.m.	9 p.m.	9 a.m. 9 p.m.		Vapour Pressure.		Percentage.		9 a.m.	9 p.m.	0	1-3	4-6	7-9	10	8 or more	4-7	1-3	Cal ^m	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
					° F	° F	mb.	mb.	°	°																				
																														° F	° F	mb.	mb.	%	%
Jan.	1025.9	1025.8	30.295	30.294	33.7	34.8	1.3	0.9	5.7	6.3	86	91	8.7	7.4	1	2	4	23	0	31	0	15	2	0	2	7	2	1	2	
Feb.	1019.6	1020.1	30.110	30.122	30.8	31.9	(0.9)	(1.1)	(5.3)	(5.3)	(89)	(88)	9.9	7.1	0	0	2	26	0	28	0	3	1	3	11	7	0	0	3	
Mar.	1028.0	1026.7	30.358	30.320	40.7	42.7	2.3	2.2	7.0	7.6	79	81	4.6	4.2	16	0	1	13	0	31	0	8	2	1	5	3	2	1	9	
April	1016.4	1016.4	30.016	30.016	44.6	41.5	3.8	2.9	7.1	6.5	69	74	7.0	5.4	5	1	3	13	0	29	0	10	5	1	2	3	3	3	3	
May	1012.3	1013.0	29.892	29.915	53.1	51.7	4.7	4.1	9.4	9.5	69	72	6.7	5.5	8	1	2	19	0	31	0	6	5	2	5	9	2	1	1	
June	1015.4	1015.5	29.985	29.988	56.8	55.1	4.9	4.3	11.1	10.7	70	73	7.7	5.4	3	2	3	18	0	30	0	8	2	3	0	6	2	8	1	
July	1017.9	1016.5	30.060	30.018	62.2	61.0	5.5	5.0	13.1	13.1	69	71	6.2	6.0	9	2	1	14	0	30	1	7	1	0	5	8	1	4	4	
Aug.	1013.7	1014.3	29.935	29.953	59.9	58.8	4.3	3.7	13.2	13.3	75	78	6.3	6.8	5	3	6	13	0	31	0	3	0	0	0	13	6	4	5	
Sept.	1019.6	1019.8	30.110	30.115	57.7	58.5	3.3	3.0	13.1	14.0	79	82	5.3	3.2	9	2	5	11	0	26	4	2	2	0	0	11	2	6	3	
Oct.	1008.1	1008.1	29.770	29.770	48.6	47.1	2.7	2.3	9.5	9.1	80	82	5.8	5.8	9	3	1	14	0	29	2	4	0	0	0	10	6	8	1	
Nov.	1005.2	1004.0	29.683	29.650	42.3	43.0	1.4	1.5	8.0	8.2	88	87	5.8	6.6	8	2	4	13	0	28	1	1	2	2	2	13	4	4	1	
Dec.	1001.3	1003.7	29.570	29.640	41.0	40.5	1.7	1.7	7.4	7.4	85	85	6.8	6.1	6	4	0	18	0	28	0	0	0	0	2	16	4	7	2	
Totals	186.3	186.6	11.784	11.801	571.4	566.6	36.8	32.7	109.9	111.0	938	964	80.8	69.5	79	22	27	42	195	5	352	8	67	22	12	34	106	34	47	35
Means	1015.5	1015.5	29.982	29.983	47.6	47.2	3.1	2.7	9.2	9.3	78	80	6.7	5.8																

Pressure is expressed in millibars (1000 millibars = 29.531 mercury inches), also in mercury inches.

RIVER HEIGHT RECORDS REGISTERED BY THE AUTOMATIC RECORDER
AT THE GUILDHALL, YORK, 1929.

Date.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.
1	5 a.m.	above 2	1 a.m.	above 4	12 p.m.	above 0	noon	above 0			8 p.m.	above 0
2	1 a.m.	1 11	3 p.m.	5 1	"	0 8	6 p.m.	0 6	} <i>River drawn off</i>		12 p.m.	below 0
3	12 p.m.	1 9	1 a.m.	4 7	6 p.m.	0 8	"	0 5			12 p.m.	above 0
4	1 a.m.	1 9	"	3 8	12 p.m.	0 6	8 p.m.	0 5			8 p.m.	0 1
5	"	1 6	"	1 11	9 p.m.	0 9	6 p.m.	0 6	above 1		10 p.m.	0 2
6	12 p.m.	1 3	10 p.m.	1 6	5 p.m.	0 8	12 p.m.	0 6	1 9		"	0 2
7	"	1 3	12 p.m.	1 9	4 p.m.	0 7	1 a.m.	0 6	1 4		12 p.m.	0 1
8	1 a.m.	1 3	1 a.m.	1 9	12 p.m.	0 6	6 p.m.	0 6	1 4		"	0 2
9	6 p.m.	1 0	2 p.m.	1 8	"	0 10	7 p.m.	0 5	0 9		1 a.m.	0 2
10	3 p.m.	1 3	7 p.m.	1 10	6 p.m.	0 8	4 p.m.	0 4	0 9		3 p.m.	0 3
11	12 p.m.	1 9	1 a.m.	1 10	12 p.m.	0 7	8 p.m.	0 4	0 6		12 p.m.	0 3
12	4 p.m.	1 10	"	1 3	6 p.m.	0 7	"	0 5	0 10		6 p.m.	0 4
13	12 p.m.	1 11	9 p.m.	0 11	"	0 7	7 p.m.	0 4	0 9		9 p.m.	0 2
14	"	2 2	1 a.m.	0 10	12 p.m.	0 6	2 a.m.	0 1	0 9		3 p.m.	0 4
15	1 a.m.	2 2	3 p.m.	1 0	9 p.m.	0 7	12 p.m.	0 4	2 2		12 p.m.	0 4
16	"	1 4	1 a.m.	0 10	10 p.m.	0 7	1 a.m.	0 2	2 2		1 a.m.	0 4
17	"	1 0	6 p.m.	0 10	12 p.m.	0 3	12 p.m.	0 1	1 2		6 p.m.	0 5
18	12 p.m.	1 3	1 a.m.	0 9	9 p.m.	0 7	2 a.m.	0 1	0 7		10 p.m.	0 3
19	"	2 7	10 p.m.	0 8	"	0 6	12 p.m.	0 5	0 5		7 p.m.	0 3
20	9 p.m.	4 8	6 p.m.	0 8	"	0 6	4 p.m.	0 7	0 7		"	0 2
21	1 a.m.	4 7	1 a.m.	0 7	10 p.m.	0 6	6 p.m.	0 7	0 4		8 p.m.	0 2
22	"	1 11	12 p.m.	0 8	12 p.m.	1 0	4 p.m.	0 4	0 4		12 p.m.	0 3
23	12 p.m.	1 5	5 p.m.	1 0	6 p.m.	1 1	9 a.m.	6	0 2		1 a.m.	0 2
24	"	1 6	6 p.m.	1 1	"	1 0	9 a.m.	6	0 2		10 p.m.	0 2
25	"	2 0	9 p.m.	0 9	"	0 7	10 a.m.	6	0 1		10 a.m.	below 0
26	1 a.m.	2 0	12 p.m.	0 8	"	0 11	10 a.m.	0 5	below 0		3 p.m.	below 0
27	5 p.m.	1 8	10 p.m.	0 7	"	0 9	4 p.m.	1	above 0		"	0 1
28	1 a.m.	1 5	"	0 0	12 p.m.	0 7	noon	below 0	below 0		8 p.m.	0 3
29	12 p.m.	1 6	"	0 7	1 p.m.	0 6	} <i>River drawn off</i>	} <i>River drawn off</i>	10 a.m.		10 p.m.	0 2
30	"	4 11			6 p.m.	0 8			"		1 a.m.	0 1
31	6 a.m.	5 6			1 a.m.	0 7			"			

RIVER HEIGHT RECORDS.

Date.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.	Time.	Above or below S.L. ft. in.
1	noon	below 0	12 p.m.	above 2	1 a.m.	above 0	1 a.m.	above 0	1 a.m.	above 1	6 p.m.	above 5
2	1 p.m.	above 0	1 a.m.	2	5 p.m.	0	12 p.m.	1	noon	0	1 a.m.	5
3	6 p.m.	0	"	2	6 p.m.	0	"	3	6 p.m.	1	2 p.m.	7
4	2 p.m.	0	12 p.m.	1	8 p.m.	0	1 a.m.	3	11 a.m.	0	1 a.m.	6
5	"	0	6 p.m.	4	6 p.m.	0	"	1	12 p.m.	1	12 p.m.	4
6	8 p.m.	0	1 a.m.	0	4 p.m.	0	12 p.m.	2	4 p.m.	3	10 a.m.	6
7	2 a.m.	0	12 p.m.	3	6 p.m.	0	8 a.m.	3	1 a.m.	2	3 a.m.	6
8	3 p.m.	0	1 a.m.	3	12 p.m.	0	1 a.m.	1	12 p.m.	1	9 a.m.	6
9	1 p.m.	0	"	1	6 p.m.	below 0	6 p.m.	1	6 a.m.	1	12 p.m.	5
10	6 p.m.	0	"	0	9 a.m.	below 0	1 a.m.	1	12 p.m.	5	10 a.m.	6
11	2 p.m.	0	6 p.m.	0	2 p.m.	above 0	12 p.m.	0	6 a.m.	5	12 p.m.	7
12	3 p.m.	0	12 p.m.	0	"	0	8 a.m.	0	1 a.m.	7	7 p.m.	9
13	6 p.m.	0	1 a.m.	0	"	0	1 a.m.	0	1 a.m.	7	1 a.m.	9
14	5 p.m.	0	7 p.m.	0	3 p.m.	0	3 p.m.	0	12 p.m.	2	noon	6
15	1 a.m.	0	10 p.m.	0	12 p.m.	below 0	6 p.m.	0	3 a.m.	1	1 a.m.	5
16	"	0	8 p.m.	0	9 a.m.	above 0	1 a.m.	0	9 p.m.	1	"	4
17	7 p.m.	0	3 p.m.	0	1 p.m.	below 0	1 a.m.	0	1 a.m.	1	"	2
18	2 p.m.	0	3 p.m.	0	2 p.m.	above 0	noon	0	12 p.m.	4	"	1
19	6 a.m.	below 0	6 p.m.	0	8 a.m.	below 0	3 a.m.	0	3 p.m.	6	8 p.m.	1
20	3 p.m.	above 0	3 p.m.	0	6 a.m.	below 0	1 a.m.	0	1 a.m.	5	1 a.m.	1
21	12 p.m.	below 0	3 p.m.	0	6 a.m.	0	noon	0	1 a.m.	10	12 p.m.	1
22	6 p.m.	0	8 p.m.	0	noon	0	3 p.m.	0	6 a.m.	3	12 p.m.	1
23	1 a.m.	0	11 p.m.	0	6 p.m.	above 0	1 a.m.	0	"	1	1 a.m.	1
24	"	0	12 p.m.	2	1 p.m.	0	11 a.m.	3	12 p.m.	3	12 p.m.	4
25	2 p.m.	above 0	4 p.m.	2	"	0	1 a.m.	4	12 p.m.	3	"	8
26	1 a.m.	below 0	1 a.m.	1	2 p.m.	0	"	3	12 p.m.	6	"	11
27	2 p.m.	above 0	"	0	3 p.m.	0	1 a.m.	3	1 a.m.	6	10 a.m.	11
28	4 p.m.	below 0	9 p.m.	0	12 p.m.	0	12 p.m.	0	"	6	1 a.m.	11
29	1 a.m.	0	"	4	11 a.m.	0	"	1	12 p.m.	4	12 p.m.	10
30	1 p.m.	above 0	4 p.m.	0	2 p.m.	0	6 p.m.	1	1 a.m.	4	"	8
31	"	0	6 p.m.	0	2 p.m.	1	1 a.m.	2	1 a.m.	4	1 a.m.	12

THE YORKSHIRE MUSEUM, 1929.

RAINFALL IN 1929

AT CHERRY HILL, YORK.

Rain Gauge : Dia. of Funnel, 5 in.;
Height Above Ground, 1ft. 6in.
" Above Sea Level, about 50ft.

BRIGHT SUNSHINE.		Pressure at Mean Sea Level			
Month	Daily Mean.		Per-centage.		Absolute.
	1929	1928	1929	1928	
	Hours.	%	%		
Jan.	1.00	16	13	mb.	
Feb.	0.80	26	8	1043.3	8th, 9 p.m.
Mar.	4.22	20	36	1042.6	28th, 9 p.m.
Apr.	4.84	30	35	1044.3	1st, 9 a.m.
May	5.31	23	33	1028.1	11th, 9 p.m.
June	5.19	35	31	1030.0	30th, 9 a.m.
July	5.26	45	32	1029.8	21st, 9 a.m.
Aug.	4.86	34	33	1031.0	14th, 9 a.m.
Sept.	4.82	35	38	1024.6	19th, 9 a.m.
Oct.	3.37	28	32	1033.7	25th, 9 a.m.
Nov.	1.54	22	18	1033.0	31st, 9 p.m.
Dec.	1.15	14	16	1031.1	1st, 9 a.m.
				1040.0	17th, 9 a.m.
Year.	3.55	29	29	1044.3	March 1st, 9 a.m.
					Dec. 7th, 9 a.m.

Month	Inches	Wet Days	Greatest Fall	Date
Jan.	2.15	14	.45	28
Feb.	.51	7	.20	21
Mar.	.17	1	.17	4
April	.60	2	.60	27-8
May	.62	4	.48	11-12
June	1.28	11	.40	12
July	1.96	7	.90	27-8
Aug.	2.34	17	.25	21
Sept.	.56	5	.16	30
Oct.	2.43	13	.39	24
Nov.	3.56	20	.70	28
Dec.	5.16	22	.84	9
Totals	21.34	123		

ADDITIONS TO THE MUSEUM

DURING 1929.

MRS. BATEMAN.—Life Preserver.

THE REV. A. B. BROWNE.—Razor with tortoise-shell handle, silver mounted, c. late xvii. century.

F. C. CHAPMAN.—Roman Cinerary Urn found outside Fishergate Council School.

R. H. CHAPMAN.—Old Penknife.

CECIL H. COBB, M.A.—Two Maps.

W. COOPER.—Stuffed specimen of Badger.

P. COUCHMAN.—Six Linthorpe Tiles.

THE VISCOUNT DOWNE.—Nest of Missel Thrush composed of pieces of string.

S. R. B. FRANKS.—Sampler.

MRS. EDWIN GRAY (at the wish of the late Edwin Gray, Esq.).—Early Typewriter; Binocular Microscope; 6 eyepieces and 6 lenses; Sextant; Mahogany Cabinet containing 376 Microscopical Slides; Theodolite, and Dissecting Microscope.

ALBAN HEAD.—Brass Ring from the peat in Acomb Bog.

DR. W. L. HILDBURGH (per J. Allan, Esq.).—14 Roman Republican Silver Denarii from Spain.

ARTHUR HURST, A.K.C.—Three Pewter Spoons.

H. B. KIDSON.—Large Leeds Hot-Water Dish.

MRS. JOHN AND MR. ALWYNE KITCHING.—Green glazed Jug, found in an old filled-up well in excavating the site of Davy Hall, Davygate, Oct., 1899; iron Bound Chest; from Tanner Row, 1900, Roman remains as follows: Key, Pendant, 2 jet Pins, beam of small Balance, 3 bronze Stylæ, 5 bronze articles, Spoon, small bronze with animal on, bronze Figure, Stud, Pin, Tweezers, etc., fragment of wooden Spoon, 2 Lamps, 7 bone Pins; bone Pin from Silver St., Church St., York, Nov., 1897; fragments of Samian and other Pottery, bone Awl and iron implement, Horns and Teeth from site of Davy Hall, 1899; 22 Greek, Roman and British Coins; Sword blade from site of St. Crux Church.

MISS C. C. LAWTON.—Two pairs of Buckles, Naval Star and parchments once belonging to Admiral Nicholas Cæsar Corsellis.

MRS. E. LEWIS.—Brass Warming Pan, set of brass Fire Irons, etc.

A. W. LINFOOT.—Admiral Vernon Medal; part of collection of Roman Coins; Egg of Dartford Warbler.

MISS MORLEY.—Old Seal, Case of polished Stones, Shells, etc.

J. H. MORTON.—Wm. and Mary 4d. piece, Queen Anne and George II. 1/-.

F. T. PENTY.—Two blocks of Mortar from the Roman Wall beneath Harker's Hotel.

DR. H. A. PHILLIPS.—Piece of grey-glazed Stoneware (c. 1720); Mediæval Glass Bottle.

THE REV. A. RAINE, B.A.—5 Roman Coins, 2 Stycas and 1 Lancaster $\frac{1}{2}$ d. Token.

THE LATE F. J. HAXBY ROBINSON.—Gold Scarf Brooch worn by Thomas Crawford when Master of the Easingwold Hounds, 1812.

BARON ROTHSCHILD.—Cast of Egg of *Aepyornis maximus* and stand.

W. H. ST. QUINTIN, D.L. J.P., F.Z.S.—Blinds for the British Bird Room.

CHARLES LAWSON SMITH.—Mortar? and 2 stones from Addingham.

SIDNEY H. SMITH, F.Z.S.—Upper stone of Rotary Quern from Raskelf.

EX-INSPECTOR W. SMITH.—Specimen of the Lesser Shrew from Stockton-on-Forest.

H. SOWDEN.—15 specimens of *Rhynchonella varians*, var *thurmanni*, Voltz.

MISS L. SUMNER.—2 Oriental Vases.

H. L. SWIFT.—Part of a Cross Slab found in Blake St.

R. N. WHEATLEY.—Clay Pipe, dug up at the Tower of London.

MRS. F. J. WILEY.—Pin Box; Vanity Glass; 2 old Watch Chains; pair of S.P. Sugar Tongs; 2 pair of Scales; Pewter Tumbler; Pottery.

COL. G. A. EASON WILKINSON.—Two pieces of green glazed Pottery; picture of Slave Ship; Palstave; Celts and flint Arrow Heads; Shells, etc.; Plan of Dringhouses by Samuel Parsons, 1624.

YORK WATERWORKS Co.—Quern found in Beckfield Lane, Acomb.

C. ZIMMERMAN.—Sheffield silver plated Candlestick.

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PROCEEDINGS
OF THE
YORKSHIRE
PHILOSOPHICAL SOCIETY.

PAPERS

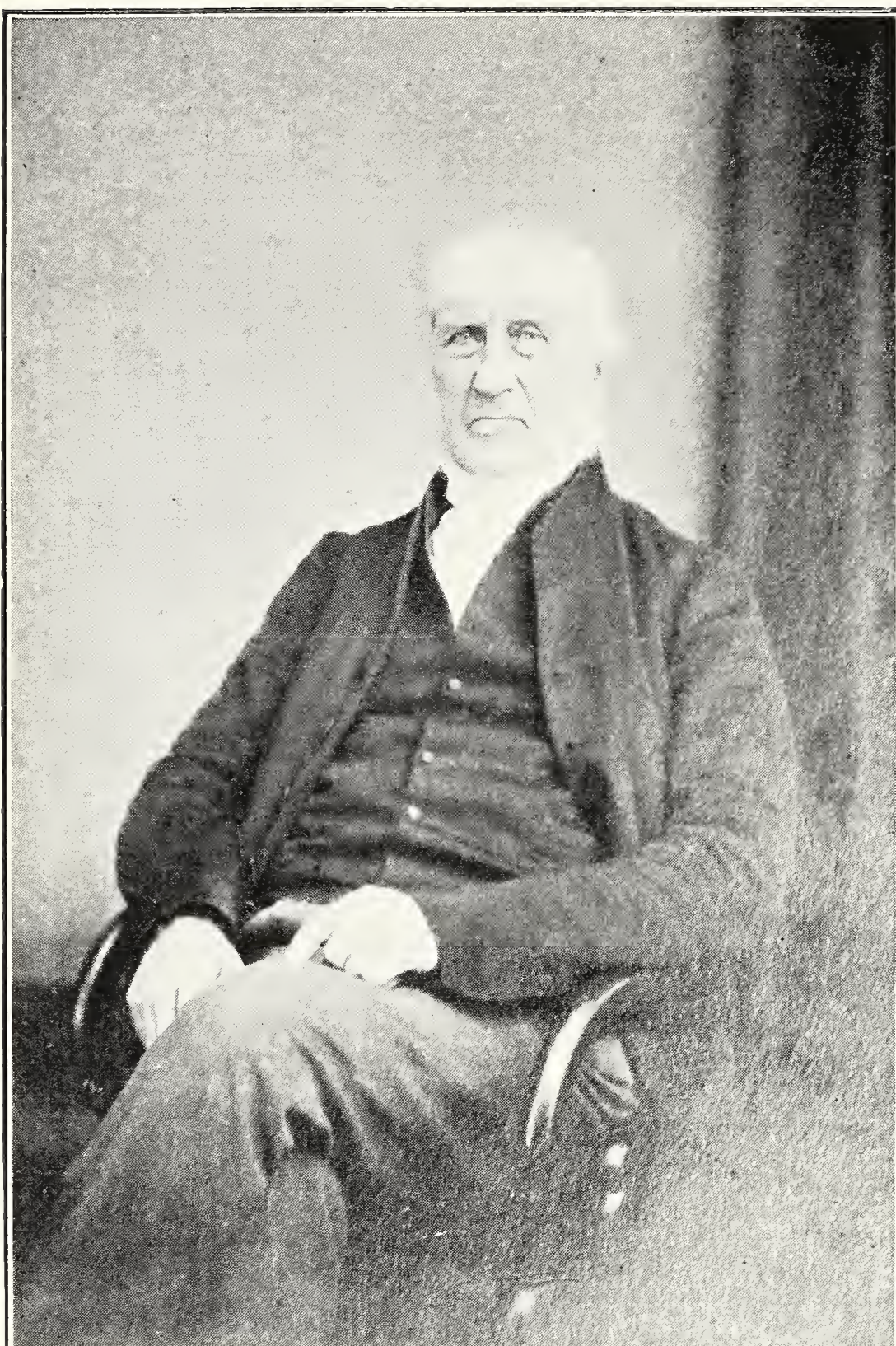
RELATING TO THE

Antiquities and Natural History of Yorkshire, etc.,

PRINTED BY ORDER OF THE COUNCIL.

1930.

BRITISH
MUSEUM
14 MAY 30
NATURAL
HISTORY.



Thomas Allis

PROCEEDINGS
OF THE
YORKSHIRE PHILOSOPHICAL SOCIETY
1929.

FEBRUARY 4TH.—Col. W. A. White occupied the chair.

The Keeper read the minutes of the previous meeting, and announced the Donations to the Museum and Library.

The following Communications were then read :—

COLIN MACLAURIN, MATHEMATICIAN.

BY SIDNEY MELMORE, B.Sc., F.G.S.

THE NEW ROMAN MEMORIAL STONE.

BY THE REV. A. RAINE, B.A.

MARCH 4TH.—Col. W. A. White occupied the chair.

The Keeper read the minutes of the previous meeting, and announced the Donations to the Museum and Library.

The following Communication was then read :—

EARLY AND MEDIÆVAL POTTERY.

BY ARTHUR HURST, A.K.C.

THOMAS ALLIS, OSTEOLOGIST, 1788—1875.

BY SIDNEY MELMORE, B.Sc.

Thomas Allis, Honorary Curator of Comparative Anatomy in this Museum from 1839 to the time of his death, was born at Tewkesbury, on the 9th of January, 1788. He was educated at Burford, married Mary Naish of Flax Bourton in 1812, and came to York in 1823, in which year he was

appointed Superintendent of the Friends' Retreat. As a relaxation from his official duties he took up the study of ornithology and ultimately specialised in the osteological side of that subject. In 1842 he left the Retreat and took up a similar position in a private institution of the same kind at Osbaldwick. On account of the restricted size of his new surroundings, he parted with his collections and abandoned his studies. It was not, indeed, until 1864 when he undertook the articulation of the skeleton of *Dinornis robustus* that he resumed practical work. He was elected a Fellow of the Linnæan Society in 1857, and was one of the first members of the British Association.

Of himself Allis has written :—" I am more of a practical than a book Naturalist, and in fact the only time that I can devote to the pursuit of Natural History is so fully occupied in the preparation of my skeletons as to preclude my having much time to devote to books ; I have therefore seldom consulted an author respecting the skeleton of any animal until I had made the preparation myself ; when I have sometimes looked into some work to see whether the peculiarities of structure I had myself noticed had been previously observed. This mode of working has its advantages and disadvantages. The advantage consists in the pleasure and in the stimulus received in constantly unfolding and discovering peculiar conformations new to ourselves ; and possessing at the time all the interest of new discoveries ; and in the habit of attentive observation which is necessarily induced thereby."

That there was nowhere in the country at that time a representative osteological collection accessible to students, was a matter on which Allis felt the deepest concern. " I take upon myself " he wrote, " to assert that instead of its being impossible it is a disgrace to the Science of this Country, that there is no public osteological collection which will furnish all the information requisite for this purpose ; when I look at the extended Empire and still more extended commerce of this Country, I see facilities for accomplishing all that can be desired by men of science on this head.....I venture to assert that it is impossible for any satisfactory system of classification

to be established without some reference to internal as well as external anatomy.....When I compare the osteological collections of other countries possessing far less commercial enterprise, far less territorial extent, with the public collections of our own, I feel ashamed of the great deficiencies which ours exhibit." Thus he set about the formation of his own collection. He secured his material from various sources. Some subjects were obtained from his friend J. J. Audubon who offered a collection of about three hundred species which he had brought back from his travels in 1834; others came from the Royal Zoological Gardens, (the skin of the Great Auk was offered for £7); others were got from Lord Derby's aviary at Knowsley, and a few from Wombwell's Menagerie. This Society acquired the collection of bird skeletons by purchase in the year 1838; in the previous year Allis had presented a large collection of Zoological specimens and, in 1844, twenty nine skeletons of foreign Mammalia, "placing," as the Report of the Council for that year states, "the collection of the Skeletons of Mammalia at the head of all the provincial collections in this country; a position which the Society already occupied with respect to its collection of the Skeletons of Birds."

As early as 1835 Allis announced the results of his work on the Sclerotic Ring of the Eyes of Birds and Reptiles, results of which Buckland availed himself in his Bridgewater Treatise, where one of the rings in the Allis Collection is figured (pl. x, figs. 6, 7, 8). In this connection the following letter preserved in the York Public Library is of interest:—

Oxford, June 24th, 1835.

My dear Sir,

I am very much obliged by your kind attention to my request concerning the bony sclerotic of Reptiles, and to Mr. G. Weston for his beautiful drawings of the subjects you have selected. The first (that of the eye of Iguana) is most to my purpose, and I shall gladly and gratefully introduce it among my illustrations of the Eye of Ichthyosauria. I think Sömmering's figure of the Eye of Turtle gave the scales rather more like one another than in your specimen.

I am very glad to hear you talk of publishing your collection of the Drawings of bony Sclerotics of 40 Birds. The subject is very beautiful and I think would make an admirable paper for the Transactions of the Royal Society or Zoological Society of London. I would only advise you to make haste with your publication for fear of being anticipated in these days of philosophical scrambling for subjects to write about.

I beg you also to accept my best thanks for your Cast of the very fine head of Mandrill and to your friend who had the kindness to bring it to Cheltenham. I shall have much pleasure in placing it in the Anatomy School at this place.

I remain,

Your much obliged

& obt. servant,

WM. BUCKLAND.

Although Allis read several papers on this subject, both before this Society and elsewhere, some twenty years were allowed to elapse before the work was printed. He himself was of opinion it never would have appeared had not the publication of Strickland and Melville's book on "The Dodo and its Kindred" afforded him an opportunity of demonstrating the value of the sclerotic ring for determinative purposes.

Space does not admit of any account of the work upon the skeleton of *Dinornis robustus*; for this the papers in the bibliography must be consulted, and also that by Owen in Trans. Zool. Soc., 1867, vol. v, p. 337, where the skull and scapulo-coracoid of this specimen are described and figured (pls. lv. and lvi.)

No one among his contemporaries was better qualified to pass judgment upon Allis' work and his merits as a comparative anatomist than his friend Sir Richard Owen. On the 2nd of October, 1872, he wrote to Allis:—"I am daily expecting author's copies of a Paper in the Zool. Trans. in which the reconstruction of another genus of flightless—I cannot say wingless—extinct New Zealand Bird is attempted; and there is no practical ornithologist and osteologist whose opinion on the attempt I shall value more than your own. I

trust you may be spared to us and to our favourite Science years yet to come, although, at my younger years—68—significant symptoms that the bodily frame was not made to last warn us to make the most of time.”

Believe me
Your friend with much esteem,
RICHARD OWEN.

Thomas Allis died at York on the 24th of September, 1875, and was buried in the Friends' Burial Ground at the Retreat.

In conclusion I desire to express my thanks to Miss Nora C. Giles for much valuable information regarding the life and work of her great grandfather; to Dr. H. J. Mackenzie; and to the City Librarian for permission to reproduce the above letters, which, with many others of equal value and importance addressed to Thomas Allis, are now in his charge.

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NOTES ON SCARBROITE.

BY SIDNEY MELMORE, B.Sc.

In 1826 Vernon Harcourt discovered a new mineral in the Estuarine Sandstone of Scarborough; this he later described under the name scarbroite.* Since that time, little if any work appears to have been done on the subject. The mineral is described by Greg and Lettsom† and compared with collyrite. C. Fox Strangways‡ refers to it, and points out that it resembles schrötterite (opaline allophane) in the small quantity of silica it contains. F. W. Rudler§ classes it as more or less nearly related to allophane. In all these cases it is spoken of as an hydrated silicate of alumina.

Having recently come across some specimens in the Yorkshire Museum labelled "Scarbroite from Scarborough" (M. 4103), a portion of the material was used for the following examination.

Specific Gravity.—Some of the finely powdered mineral was added to Sonstadt's solution and diluted until it had the same density as the mineral; the density of the solution was then

* Rev. W. V. Vernon Harcourt. Analysis of an aluminous Mineral in the Collection of the Yorkshire Philosophical Society. Phil. Mag., (N.S.), vol. v., (1829), p. 178.

† Manual of Mineralogy of Great Britain and Ireland (1858), p. 447.

‡ Mem. Geol. Surv. "The Jurassic Rocks of Britain," vol. i., Yorkshire (1892), p. 475.

§ Mem. Geol. Surv. Handbook to Coll. Minerals of the British Islands, (1905), p. 200.

determined in a pycnometer. The value thus found was 2.05. Vernon Harcourt found 1.485 but appreciated the difficulty of getting a correct value by the displacement method.

Chemical Analysis.—The three following analyses were carried out by treating the ignited mineral with hydrofluoric acid and volatilising the silica. There was a trace of iron in I, but none in II and III.

	I (on 0.26 grs.)	II (on 0.66 grs.)	III (on 1.63 grs.)
SiO ₂	6.48	5.69	5.88
Al ₂ O ₃	44.19	44.32	44.02
H ₂ O	49.33	49.99	50.10
	<hr/> 100.00	<hr/> 100.00	<hr/> 100.00

At 100-106° C., the mineral continues to lose weight even after prolonged heating, but the loss at this temperature tends to the value 19.43 per cent. Analysis I gives SiO₂ : Al₂O₃ = 1 : 4.02 but this is doubtless accidental, for in II and III an increase in silica is not accompanied by a corresponding increase in alumina.

Optical Properties.—The mineral in powder is scaly, with no definite crystal outline. The refractive index is less than that of cedar oil (1.509) and very slightly greater than that of benzene (1.502). In polarised light it presents a submicroscopic speckled effect similar to that seen in devitrified glass. Interference colours grey to pale yellow of the first order. Occasionally the parts showing the higher tint have a tendency to form streaks which have an extinction angle varying from 0° to 10° and compensate with the quartz wedge approximately parallel to the length.

Other Properties.—The mineral is stained by an aqueous solution of eosin but not by crystal violet. The colour, fracture, hardness, &c., are as described by Vernon Harcourt.

The mineral does not represent a chemical combination in simple molecular proportions, but is an intimate mixture of colloidal hydrate of alumina and a mineral allied to chalcedony.

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MAY, 1930.

